

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF IOWA
WESTERN DIVISION

JERRY McCLAIN,)	
and KRISTI McCLAIN,)	NO. 1:04-cv-30019-RAW
)	
Plaintiffs,)	RULING ON DEFENDANT'S
)	MOTION TO BAR THE
vs.)	TESTIMONY OF PLAINTIFFS'
)	EXPERT HAROLD STILLMAN
WERNER CO.,)	
)	
Defendant.)	

Werner's motion to bar the testimony of plaintiffs' expert Harold Stillman [19] is before the Court following hearing. Plaintiffs have resisted the motion. It is considered in conjunction with defendant's motion for summary judgment, on which a separate ruling is entered this date.

This lawsuit involves an accident occurring when plaintiff Jerry McClain fell from a six-foot aluminum step ladder manufactured by Werner. Harold Stillman is plaintiffs' liability expert. He has opined that the ladder is defective in design. Defendant's motion challenges his testimony on two related bases: (1) that "his opinions fail to satisfy the minimum relevance and reliability standards required by Federal Rule of Evidence 702 and Daubert"¹ and (2) "the testimony is not scientifically reliable because he has not offered a feasible alternative design for the ladder." (Def. Mem. at 1). The existence of a safer alternative

¹ 509 U.S. 579 (1993).

design is an element of a design defect claim under Iowa law. Accordingly, these arguments merge with respect to proffered expert testimony that a product is defective.

A. General Considerations

Trial judges have a "general 'gatekeeping' obligation" and discretionary authority under Fed. R. Evid. 702 with respect to the admission of expert testimony. Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141, 158 (1999)(citing Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, 589 (1993); Unrein v. Timesavers, Inc., 394 F.3d 1008, 1011 (8th Cir. 2005)).

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. The objective of these requirements "is to ensure the reliability and relevancy of expert testimony." Kumho Tire, 526 U.S. at 152. The Supreme Court has suggested several non-exclusive, non-definitive factors to consider in applying Rule 702: whether a theory or technique has been tested; whether it has been subjected to peer review and/or publication; what is the known or potential rate or error; do standards exist which control the operation of the theory or technique; is the theory/technique

generally accepted; "whether the expertise was developed for litigation or naturally flowed from the expert's research; whether the proposed expert ruled out other alternative explanations; and whether the proposed expert sufficiently connected the proposed testimony with the facts of the case." Lauzon v. Senco Products, Inc., 270 F.3d 681, 687 (8th Cir. 2001)(citing Bogosian v. Mercedes-Benz of No . America, Inc., 104 F.3d 472, 479 (1st Cir. 1997)); see Daubert, 509 U.S. at 593-94; Daubert v. Merrell Dow Pharm. Inc., 43 F.3d 1311, 1317 (9th Cir. 1995); Claar v. Burlington N.R. Co., 29 F.3d 499, 501-03 (9th Cir. 1994)).

[T]he test of reliability is "flexible," and Daubert's list of specific factors neither necessarily nor exclusively applies to all experts or in every case. Rather, the law grants a district court the same broad latitude when it decides how to determine reliability as it enjoys in respect to its ultimate reliability determination.

Kumho, 526 U.S. at 142; see Unrein, 394 F.3d at 1011-12 ("This evidentiary inquiry is meant to be flexible and fact specific, and a court should use, adapt or reject Daubert factors as the particular case demands."). "The proponent of expert testimony must prove its admissibility by a preponderance of the evidence." Lauzon, 270 F.3d at 686.

The Daubert/Kumho gatekeeping function now incorporated in the language of Rule 702 is concerned with the reliability of expert testimony, not its credibility. If proposed expert testimony is sufficiently grounded to be reliable and therefore admissible,

the credibility to which it is entitled is solely a matter for the jury. See Larson v. Kempker, 414 F.3d 936, 941 (8th Cir. 2006).

B. Questions Presented and Stillman's Opinions

Before launching into an analysis of the relevant factors under Daubert and its progeny, the Court must determine what question is being asked, and what theory is proffered as an answer. Plaintiffs have advanced a claim, and Stillman has opined, that Werner's ladder design is defective in two particulars discussed below, and that Stillman's proposals for an alternative design would have prevented Mr. McClain's fall, this despite the ladder's compliance with the applicable American National Standards Institute (ANSI) standard for the safe design and construction of portable metal ladders.² As it has evolved in Iowa, a design defect claim requires a plaintiff to prove:

. . . [T]he foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor . . . and the omission of the alternative design renders the product not reasonably safe.

Wright v. Brooke Group Ltd., 652 N.W.2d 159, 169 (Iowa 2002)(quoting Restatement (Third) of Torts: Product Liability §

² The relevant ANSI standard is A 14.2-1982, the "American National Standard for Ladders -- Portable Metal -- Safety Requirements." (Def. App. at 19). The articulated scope and purpose of the standard are to "prescribe[] rules governing the safe construction, design, testing, care and use of portable metal ladders" in order to "provide reasonable safety for life, limb, and property." (Id. at 27).

2(b)). Mr. Stillman's opinions must be sufficiently relevant and reliable to assist a fact finder in determining the following elements of plaintiffs' claim as delineated in the Iowa Civil Jury Instructions:

[1] [a] reasonable alternative safer design could have been practically adopted at the time of sale or distribution; [2] [t]he alternative design would have reduced or avoided the foreseeable risks of harm posed by the [ladder]; [3] [t]he omission of the alternative design renders the [ladder] not reasonably safe; and [4] [t]he alternative design would have reduced or prevented the plaintiff's harm.

I.C.J.I. 1000.2. See Kumho, 526 U.S. at 156 (noting that a trial court must determine whether a "particular expert had sufficient specialized knowledge to assist jurors 'in deciding the particular issues in this case.'").

The stepladder was "flared," wider at the base than at the top. The amount of flare was 1¼ inches per foot which conformed to the minimum ANSI standard for portable metal ladders at the time of manufacture and sale. (Def. App. at 30).³ Stillman's primary theory is that the ladder should have had a wider flare. Though he did not opt for any particular width in his written report, Stillman's deposition testimony was to the effect that the ladder should have been flared at the rate of 4 inches per foot. (Pl. App. at 74, 67, 78). In substance his opinion is that a 4-inch flare is

³ Factual citations in this ruling are to the parties' summary judgment appendices.

more stable and therefore safer. Werner's 1¼-inch flare is less stable, less safe and therefore defective in design. Mr. McClain's injury occurred as a result of a loss of balance, he would not have lost his balance if the stepladder had had a wider base. Stillman also asserts that the ladder is defective in design because the steps should be a minimum of 5 inches wide, rather than the 3 inches reflected in the current ANSI minimum standard, (Def. App. at 30), which he thinks would have made Mr. McClain's fall less likely to occur, though it still could have occurred. (Pl. App. at 73).

Werner does not question the first prerequisite for expert testimony, Stillman's qualifications. He is a 1950 graduate from the University of Illinois with a degree in civil engineering, is a registered professional engineer, and a Certified Product Safety Manager. He is a past chairman of ANSI's Portable Metal Ladder Committee and for many years was a member of ANSI's National Standards Committee on Safety in the Construction, Care and Use of Ladders, A 14. (Pl. App. at 44, 87-88). He was chair of that committee's Testing Task Force whose work in the late 1970's led to the adoption of the ANSI standard for portable metal ladders under which the Werner ladder was designed. (Id. at 105; Def. App. at 21). As the Court understands Mr. Stillman's testimony, his engineering experience with ladders began in 1963 when he was hired by Sears' testing laboratory as a product engineer. He worked in

that capacity for Sears for 25 years testing various products, including ladders. (Pl. App. at 46-48). In 1988 Stillman took "semi-retirement." (Id. at 53). He thereafter did some consulting work and in the past few years his primary work has been in providing expert services in legal matters. (Id.)

Werner argues Stillman's opinions are not sufficiently relevant and reliable when the Daubert/Kumho factors are considered as they apply to this case. It contends Stillman's theories and alternative design have not been reviewed by peers or published, have not been tested, are not generally accepted, were not reached after ruling out other possible causes of Mr. McClain's fall, and directly contradict McClain's version of how the accident occurred. Plaintiffs respond that Stillman tested numerous ladders when he worked for Sears, that his work with ANSI ladder committees in the 1970's and 1980's, including in developing ANSI's ladder testing protocols, provides an adequate basis for his opinions, and they point out that proximate cause is usually a jury question.

C. The Daubert/Kumho Analysis

In reaching his conclusions, Stillman reviewed the depositions of Jerry and Kristi McClain and some photos of the ladder taken after the incident. (Pl. App. at 60). He did not visit the accident site nor did he examine defendant's specifications for the ladder. (Def. App. at 57-58). Relying first on measurements taken by plaintiffs' attorney, Stillman produced a Rule 26(a)(2)

report, but after examination of the ladder the day before his deposition, determined some of the measurements in his report were wrong and modified his testimony during his deposition. (Id. at 58-59). He did not perform any tests on the ladder involved in this lawsuit or an exemplar.⁴ (Id. at 62). He did not prepare any calculations or drawings. (Id. at 60). He testified the accident was caused by McClain losing his balance, causing the ladder to move to the right. (Id. at 62). McClain testified he was stepping down, the ladder leaned to the right and he "tried to get [his] balance because [he] was falling to the right." (Id. at 54).

1. Testing

The first Daubert factor is whether the expert's opinion can (and has been) tested. According to ANSI, the "most massive and technically difficult task" in upgrading its portable ladder standards was the testing carried out in the late 1970's by the Testing Task Force chaired by Stillman, testing which "included a significant amount of human factors work." (Def. App. at 21). Numerous testing procedures resulted from the work of the task force. (Id.).

Under ANSI testing protocols side stability is tested by a static pull test. A stepladder with a 200-pound weight on the second highest step must not tip when 20 pounds of force is

⁴ Stillman testified the ladder had been damaged and could not be tested. (Pl. App. at 67).

applied. (Pl. App. at 77, 93). Though Stillman questioned whether the static pull test presents a clear picture of a ladder's behavior, it is the only testing protocol in the industry for testing side stability. (Id. at 78-79). Stillman did not have an opinion as to what the static pull limit should be for a safe stepladder. (Id.) As noted, he performed no tests in this case to determine the Werner Ladder's stability. (Pl. App. at 67).

As a part of his work on the Testing Task Force referred to previously Stillman helped perform some stability tests on experimental "wide-based" ladders made by Werner and another manufacturer with a flare ranging from 1 to 4 inches per foot. (Pl. App. at 73-74). However, no risk analysis was performed on these ladders. He recalls it took more force to tip a wider-flared ladder than one with a 1¼-inch flare, but he did not know how much more force was required. (Id. at 74). Mr. Stillman thought he still had the stability tests somewhere, but he did not recall the numbers. (Id. at 73). Later, in the early 1980's, Werner made 100 experimental 4-inch flare ladders for field testing and demonstration to ANSI committee members which Stillman says were "dramatically more stable," (id. at 108), but he is unable to

provide any quantitative data concerning the testing which in any event apparently yielded inconclusive results. (Id. at 74-75, 79).⁵

Stillman acknowledged in his deposition that a perceived hazard of a wider-flared stepladder is that it may encourage users to overreach because with a wider base an object or work area to the side of the ladder is further away as the user ascends, but he

⁵ In his report, Werner's in-house engineering expert, Frederick J. Bartnicki, summarized the results of these tests as follows:

. . .The results of the studies showed that the ladders were more stable under circumstances where the users were positioned to the center or the side of the ladder opposite that of where they applied a pushing/pulling or other type tipping force. In most cases, however, the user is going to be positioned closest to the side of the ladder where the work is being performed. In this instance, a wide base stepladder provides little if any benefit as far as stability against tipping. Wider base stepladders also force the user further from his work the higher the user climbs on the ladder requiring the user to reach further. Designs of wide base stepladders that maintained the same top width as conventional stepladders were too cumbersome for most users and would not easily fit through conventional doorways. Designs with top widths reduced were not well accepted by end users because of the lack of an adequate surface to place tools and other objects when working near the top of the ladder. These studies relied upon and valued the input of end users for issues involving safety and utility of stepladders.

(Def. App. at 14-15).

did not know if the risk had been proved one way or the other. (Pl. App. at 75).

With regard to his opinion concerning step width, Stillman testified he performed some limited subjective experimentation by clamping a piece of wood to a ladder to serve as a wider step. (Pl. App. at 71-72). He described his effort in this regard as "a makeshift affair just to give me the feeling. I didn't produce a product." (Id. at 69). He has done no testing with respect to step width.

While Stillman cites his experience as the basis for his opinion that a ladder with a wider base and steps is safer, he does not provide any objective basis for comparison between the ladder as designed and manufactured, and wider-based ladders. While the truism "wider is safer" may be relevant to ladder safety as a general principle, his testimony does not provide any reliable basis to determine if the defendant's ladder design is unsafe, nor any engineering or human factors data as to what ladder base width would qualify as a reasonably safe design. See Restatement (Third) of Torts: Product Liability ("Restatement") § 2, cmt. d (adopting a "risk-utility balancing" approach to assessing design defects).

As Wright indicates, a successful design defect claim in Iowa requires proof of a reasonable alternative safer design capable of practical adoption which would have reduced or avoided the risk, reduced or prevented plaintiffs' harm, and the absence of which made the product not reasonably safe. Stillman does not go

beyond the concept of a 4-inch flare and 5-inch wide steps to actually design an alternative or construct a prototype capable of the kind of evaluation and testing to which in his own experience stepladders have been subjected in developing the ANSI standard with which he disagrees.

The theories which underlie Stillman's opinions can be tested and Mr. Stillman's involvement in the testing which resulted in the ANSI standard indicates testing is important in determining a reasonably safe design standard. Stillman has not done any testing, nor provided any data concerning the testing of wider-flared stepladders in the late 1970's or early 1980's in which he was involved. As a result, no objective testing data has been produced to support Stillman's opinion that the design of Werner's ladder is defective.

2. Peer Review and Publication

A second indicia of reliability is whether the expert's theory has been subjected to peer review and publication. Although Stillman points to articles he self-published under the title "Ladder briefs," he acknowledged that he has not authored any peer reviewed articles addressing the effect of flare width or step width on ladder stability or user balance. In fact his briefs are really not capable of peer review because they are not definitive proposals with data of the kind which could be subjected to engineering scrutiny. Stillman's three-page Ladder brief on

"balance," written in 1999, is essentially an untested suggestion that a 2-inch wide rear projection be added to the industry standard 3-inch step to enhance balance. (Pl. App. at 91). The Ladder brief on "stability," written in 2003, is more extensive and summarizes some of the results of stability tests performed by the Testing Task Force on which the current standard is based (though not with respect to different flare widths). Stillman criticizes the tests as not completely examining stability because the static tests employed did not address the effect of dynamic forces when a person moves around on a ladder. (Id. at 99, 100). In looking to the future, he suggested increasing the spread (flare), some type of shock-absorbing capability, and lowering the center of mass of the stepladder as options to consider in improving stability, without however advocating any particular design. (Id. at 100). As far as the record indicates, the stability testing and research Stillman thought important have never been done, certainly not with respect to any alternative design he advocates. Plaintiffs have not cited any articles, testing results, or studies by third parties examining the step and flare width issues.

Plaintiffs' reliance on Stillman's involvement in developing ANSI ladder standards in the 1970's and early 1980's is misplaced, as Daubert inquires if the theory advanced in litigation has been peer reviewed and published or otherwise subjected to scrutiny by other engineers, rather than examining the expert's

career publication history. Daubert, 509 U.S. at 593-94. The lack of evidence of any scrutiny of Stillman's theories by other engineering experts is a particular concern here because the ANSI standard Stillman opines results in a defective stepladder is intended to be a safe design standard and purportedly represents the collective effort and consensus of numerous experts in the field, itself a kind of peer review process. In his report Mr. Stillman notes that the Testing Task Force he chaired was part of "the most extensive revision of ladder standards ever undertaken" and "enlisted the aid of over 100 known ladder experts" (Pl. App. at 105; see Def. App. at 21). The ANSI standard emerged from a "consensus framework of developing standards." (Def. App. at 21). That Stillman's theories have, in contrast, not been subject to review by other ladder experts places the reliability of his opinions in doubt.

3. General Acceptance

The third applicable Daubert factor⁶ is the degree to which the theory advanced by the expert witness is generally accepted in the relevant scientific or engineering community. See Lauzon, 270 F.3d at 691. While general acceptance is not a rigid requirement in novel, undeveloped, or unscientific fields, see

⁶ Another factor suggested by Daubert, addressing the rate of error in scientific testing techniques, does not appear to apply to the present case.

Kumho, 526 U.S. at 151, its absence would be remarkable in the heavily researched field of portable metal ladders.

Stillman asserts that others in the industry, including Werner, "have said for years that wide-based ladders is a more stable ladder." (Pl. App. at 79). Although this touches on a relevant matter, the appropriate question is whether this common-sense statement provides reliable indicia that the defendant's ladder is unsafe. See Restatement § 2, illus. 9 (noting that while it is possible to design a safer automobile by increasing its size and weight, this does not mean a smaller, lightweight automobile is "not reasonably safe"). Plaintiffs have not shown any support in the industry for Mr. Stillman's opinion that the ladders conforming to ANSI's minimum standards are defectively designed. "Industry practice may [] be relevant to whether the omission of an alternative design rendered the product not reasonably safe." Restatement § 2, cmt. d. The absence of support for Stillman's theory that ladders conforming to the ANSI standard are defectively designed weighs against admitting his testimony that the ladder was defective.

4. Basis of Opinion

When an expert testifies based on research performed independent of litigation efforts, the testimony "is less likely to be biased and the expert is limited 'to the degree to which he can tailor his testimony to serve a party's interests.'" Lauzon, 270

F.3d at 693 (quoting Daubert, 43 F.3d at 1317.) Stillman was introduced to the field of ladder testing long before he began to serve as an expert witness in 1999. (See Pl. App. at 104). However, it is less clear that his theories that the ANSI standards are inherently defective predate his career as an expert witness. He did not advise his prior employer Sears that he believed stepladders conforming to the ANSI standards were unsafe. (Pl. App. at 72). Stillman asserts that he did favor improvements in ladder stability based on his work in the 1970's and 1980's. However, it is unclear if he believed that the ANSI standards were so insufficient as to be defective, or if he believed the testing protocol itself was insufficient to account for dynamic forces affecting a ladder's stability. (Id. at 59). Stillman states that his main focus was "making ladders more stable" rather than recommending a specific force as sufficient. (Id.) Mindful that Rule 702 favors "admissibility rather than exclusion," see Lauzon, 270 F.3d at 686, the Court concludes that Stillman's prior, independent experience provides some support for admitting his testimony.

5. Alternative Causes of Plaintiff's Accident

Werner asserts that Stillman's testimony is also unreliable because he did not rule out all possible causes of the Mr. McClain's fall, including unstable dirt beneath the ladder. Stillman did, however, rule out a manufacturing defect in the

ladder as a potential cause for the accident. (Pl. App. at 67). A plaintiff's expert is not required to rule out every conceivable cause of an accident for testimony to be admissible, so long as the testimony is generally relevant and reliable. Lauzon, 270 F.3d at 693. The existence of other possible causes affects the weight properly accorded his testimony, rather than its admissibility under Rule 702. Lauzon, 270 F.3d at 693. Stillman's failure to explore some potential causes of the accident does not preclude admissibility.

6. Application of Expert's Testimony To Case Facts

Finally, Werner asserts that Stillman's opinion cannot be reconciled with the plaintiff's testimony about how the accident occurred. At deposition, Mr. McClain described a "buckling" sensation prior to losing his balance, while Stillman opined that the plaintiff lost his balance and subsequently fell. "As a general rule, the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination." Larson, 414 F.3d at 941 (quoting Hose v. Chicago NW Transp. Co., 70 F.3d 968, 974 (8th Cir. 1995)). The perceived differences between McClain's testimony and Stillman's understanding of it do not require the exclusion of Stillman's testimony.

D. Conclusion

Mr. Stillman is a professional engineer with extensive experience in ladder safety issues. He is, as noted previously, thoroughly familiar with industry standards pertaining to the design and construction of stepladders, and familiar as well with the testing upon which the standards are evidently based. Indeed he participated in the development of the standards with which he expresses disagreement, standards by which stepladders have been manufactured for many years.

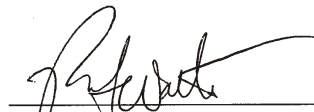
It may be that the ANSI standard is not sufficient to ensure the stepladders are reasonably safe. The proof of this, however, is rooted in science. The record indicates the key safety concerns of stability and balance can be tested, measured and compared and that human factors data is important to the process. Once that is done, the risk and utility of a proposed alternative design may be evaluated and balanced against ladders like Werner's. "Peer review" in the sense of scrutiny of Stillman's proposed alternative design and the assumptions on which it is based by other experts would be particularly helpful in assessing the reliability of his opinions about the sufficiency of a safe design standard developed through what amounts to a peer review process. Mr. Stillman's opinions appear to be an extension of the "Ladder briefs" he authored on the subjects of balance and stability. (Pl. App. at 89, 93). He has not done any investigation specific to this

case beyond reviewing the discovery and inspecting the ladder just prior to his deposition. There is no indication the ideas Stillman put forward in his Ladder briefs have gained general acceptance or been incorporated in any commercially sold ladder. In short, Mr. Stillman's opinions are not supported by the kind of data, methodology, and careful application of relevant principles one expects with such an accredited expert.

"Engineering testimony rests upon scientific foundations" Kumho, 526 U.S. at 150. When Mr. Stillman's testimony passes beyond experience-based observations that generally a wider step improves balance and wider base improves stability, to the ultimate opinions that the stepladder in question is defective in design and his alternative design would have avoided the injury, the reliability, and hence admissibility, of his testimony is dependent on a showing that his opinions are adequately grounded in the relevant science. No such foundation has been laid, and as a consequence plaintiff has not demonstrated that Mr. Stillman's proposed testimony meets the prerequisites for admission under Fed. R. Evid. 702. The motion is **granted** with respect to Stillman's opinion testimony that the design of the ladder is defective and caused the harm.

IT IS SO ORDERED.

Dated this 12th day of January, 2006.

A handwritten signature in black ink, appearing to read 'Ross A. Walters', is written over a horizontal line.

ROSS A. WALTERS
UNITED STATES MAGISTRATE JUDGE